EVETAR Lenses Surveil It Anywhere

Mega Pixel Lenses

EVETAR®

CCTV & VIDEO LENSES CE

2013

EVETAR®

An Innovative Dedicator for Industrial Lenses

Founded in September of 2002, **Xiamen Leading Optics Co., Ltd.** is a Hi-tech intensive enterprise with the best combination of technology, manufacturing, marketing and management. As one of the leading designers and manufacturers of camera lenses, **Xiamen Leading Optics Co., Ltd.** owns production facilities of 30,000 square meters, and more than 400 employees.

With strong R&D ability, advanced production equipment and strict QC system, we extend our lens family into a wide range and cover image formats from 1/9” up to 4/3”. Besides the lenses for regular VGA cameras for general security application, we keep launching new lens models for high-definition cameras in other various applications, including Day & Night security, IP surveillance, Panoramic security, Video conferencing/ Telepresence, Motion capture, Recognition, FA / Machine vision, Automotive, Medical, etc. With innovative designs, we are proud that some of our new lenses have outperformed our global competitors’ similar lenses. We are now one of the top lens suppliers for major camera makers worldwide.

We aim at pursuing high quality standards, offering our clients with high cost performance lenses and timely services, and keep dedicating to provide solutions for custom lenses inquiries in cost-effective and time-effective ways. OEM and ODM business are warmly welcomed.

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Vari-Focal Lenses (IR Mega CS) for 1/2", 1/2.3", 1/2.5"

EVETAR®

- Ultra-high resolution up to 5 Mega-pixel or 10 Mega-pixel
- IR-correction for Day & Night surveillance
- Manual, DC auto iris for option
- Compact design for Dome and Box cameras
- Glass elements and metal housing

NEW NEW

Model No.		M12VM4510IR	M12VM412IR	M12VM816IR	M12VM1040IR	M12VM1240IR	M123VM4510IR	M125VM3410IRCS
Image Size (inch)		1/2"	1/2"	1/2"	1/2"	1/2"	1/2.3"	1/2.5"
Focal Length (mm)		4.5 - 10	4.0 - 12	8.0 - 16	10 - 40	12 - 40	4.5 - 10	3.4 - 10
Max. Aperture Ratio		1:1.6	1:1.4	1:1.6	1:1.6	1:1.6	1:1.8	1:1.6
Mount		CS	CS	CS	CS	CS	CS	CS
Horizontal Angle of View (°)	1/2"	80.5 - 37	86 - 36	50 - 26	36 - 10	34 - 12		
	1/2.3"						76.5 - 36	
	1/2.5"	68.5 - 34	76 - 31.5	40 - 20.5	32 - 8.3	26.5 - 9	71 - 33.6	92 - 36
	1/3"	57 - 28	63 - 26	34 - 18	26 - 6.9	22 - 7	59 - 28	75.2 - 29.8
Back Focal Length (mm)		6.79 - 11.8	6.97 - 12.75	7.81 - 12.1	7.73 - 9.82	6.64 - 9.4	7.3 - 12.13	6.99 - 13.25
Dimensions (Φ×L)mm		33 x 39.7	33 x 45.8	33 x 47.2	40 x 71.8	33 x 51.5	40.8 x 61.4	30.5 x 33.4
Iris		Manual	Manual	Manual	Manual	Manual	Manual	Manual
Weight (g)		80.5	85.2	89.9	155.6	96.1	174.1	60.1

NEW NEW

Model No.		M12VD4510IR	M12VD412IR	M12VD816IR	M12VD1040IR	M12VD1240IR	M123VD4510IR	M125VD3410IRCS
Image Size (inch)		1/2"	1/2"	1/2"	1/2"	1/2"	1/2.3"	1/2.5"
Focal Length (mm)		4.5 - 10	4.0 - 12	8.0 - 16	10 - 40	12 - 40	4.5 - 10	3.4 - 10
Max. Aperture Ratio		1:1.6	1:1.4	1:1.6	1:1.6	1:1.6	1:1.8	1:1.6
Mount		CS	CS	CS	CS	CS	CS	CS
Horizontal Angle of View (°)	1/2"	80.5 - 37	86 - 36	50 - 26	36- 10	34 - 12		
	1/2.3"						76.5 - 36	
	1/2.5"	68.5 - 34	76 - 31.5	40 - 20.5	32 - 8.3	26.5 - 9	71 - 33.6	92 - 36
	1/3"	57 - 28	63 - 26	34 - 18	26 - 6.9	22 - 7	59 - 28	75.2 - 29.8
Back Focal Length (mm)		6.79 - 11.8	6.97 - 12.75	7.81 - 12.1	7.73 - 9.82	6.64 - 9.4	7.3 - 12.13	6.99 - 13.25
Dimensions (Φ×L×W)mm		32 x 38.2 x 45.6	38 x 45.8 x 45.6	38 x 47.2 x 45.6	44 x 71.8 x 50.6	38 x 51.5 x 45.6	40 x 51.6 x 61.4	33 x 33.87 x 45.5
Iris		Auto(DC)	Auto(DC)	Auto(DC)	Auto(DC)	Auto(DC)	Auto(DC)	Auto(DC)
Weight (g)		76.7	82.1	84.5	155.5	99.1	146.2	68.5

Vari-Focal Lenses (IR Mega CS) for 1/2.7", 1/3"

EVETAR®

- Multi-mega pixels
- IR-correction for Day & Night surveillance
- Manual, DC auto iris for option
- Glass elements and metal housing

Coming Soon

Model No.		M127VM3312IRCS	M13VM246IR	M13VM2812IR	M13VM615IR	M13VM1230IR	M13VM550IR
Image Size (inch)		1/2.7"	1/3"	1/3"	1/3"	1/3"	1/3"
Focal Length (mm)		3.3 - 12	2.4 - 6.0	2.8 - 12	6.0 - 15	12 - 30	5.0 - 50
Max. Aperture Ratio		1:1.6	1:1.6	1:1.4	1:1.4	1:1.6	1:1.6
Mount		CS	CS	CS	CS	CS	CS
Horizontal Angle of View (°)	1/2.7"	96 - 30.3					
	1/2.8"						
	1/3"	93 - 27.2	112 - 47	94 - 25	44 - 19	23 - 9.9	50 - 5.7
	1/4"	59.6 - 20.4	80 - 35	69 - 19	34 - 14.2	17 - 7.4	36.5 - 4.3
Back Focal Length (mm)		6.81 - 13.95	6.21 - 10.49	7.8 - 16.7	11.89 - 18.49	7.46 - 13.25	7.57 - 11.87
Dimensions (Φ×L)mm		32 x 42.54	32 .5 × 37.1	40.8 x 60.7	32 x 56.7	33 x 58.8	45 x 65.4
Iris		Manual	Manual	Manual	Manual	Manual	Manual
Weight (g)			70.8	148.2	101.1	93.2	163.5

Coming Soon

Model No.		M127VD3312IRCS	M13VD246IR	M13VD2812IR	M13VD615IR	M13VD1230IR	M13VD550IR
Image Size (inch)		1/2.7"	1/3"	1/3"	1/3"	1/3"	1/3"
Focal Length (mm)		3.3 - 12	2.4 - 6.0	2.8 - 12	6.0 - 15	12 - 30	5.0 - 50
Max. Aperture Ratio		1:1.6	1:1.6	1:1.4	1:1.4	1:1.6	1:1.6
Mount		CS	CS	CS	CS	CS	CS
Horizontal Angle of View (°)	1/2.7"	96 - 30.3					
	1/2.8"						
	1/3"	93 - 27.2	112 - 47	94 - 25	44 - 19	23 - 9.9	50 - 5.7
	1/4"	59.6 - 20.4	80 - 35	69 - 19	34 - 14.2	17 - 7.4	36.5 - 4.3
Back Focal Length (mm)		6.81 - 13.95	6.21 - 10.48	7.82 - 16.7	11.89 - 18.49	7.46 - 13.25	7.57 - 11.87
Dimensions (Φ×L×W)mm		32 x 43 × 45.6	39 x 39 x 45.5	45 x 60.7 x 51.6	32 x 56.7 x 45.6	33 x 58.8 x 45.6	45 x 65.4 x 50.6
Iris		Auto(DC)	Auto(DC)	Auto(DC)	Auto(DC)	Auto(DC)	Auto(DC)
Weight (g)			77	127.4	106.2	94.1	168

Vari-Focal Lenses (IR Mega, Board Type)

EVETAR®

- Multi-mega pixels
- Compact design for Dome cameras
- IR-correction for Day & Night surveillance

NEW NEW

Model No.		M127BF286IR	M128BD281013ICRD14	M13BF246IR	M13BD246IR
Image Size (inch)		1/2.7"	1/2.8"	1/3"	1/3"
Focal Length (mm)		2.8 - 6.0	2.8 - 10	2.4 - 6.0	2.4 - 6.0
Max. Aperture Ratio		1:2.0	1:1.3	1:1.6	1:1.6
Mount		M12 x 0.5	Φ14	M12 x 0.5	M12 x 0.5
Horizontal Angle of View (°)	1/2.7"	101 - 51			
	1/2.8"		105 - 37.4		
	1/3"	92 - 47.4	98 - 34.4	112 - 47	112 - 47
	1/4"	66.6 - 35.6	67.6 - 26		
Back Focal Length (mm)		4.27 - 6.95	6.38	6.21 - 10.49	6.21 - 10.49
Dimensions (Φ×L)mm		21 x 16.25	30 x 46	32 x 35.8	32 x 35.8 x 36.6
Iris		Fixed	DC A/I with ICR	Fixed	Auto(DC)
Weight (g)		12.1	44.5	51.6	54.2

Motorized Zoom and Focus Lens

- Ultra-high resolution up to 5 Mega-pixel
- Remote control of zoom and focus
- Compact design popular for Dome and Bullet

NEW NEW NEW NEW

Model No.		MZ125BP3410ICRD19	MZ125BD3410ICRD19	MZ128BP2810ICRD14	MZ128BD2810ICRD14
Image Size (inch)		1/2.5"	1/2.5"	1/2.8"	1/2.8"
Focal Length (mm)		3.4 - 10	3.4 - 10	2.8 - 10	2.8 - 10
Max. Aperture Ratio		1:1.6	1:1.6	1:1.6	1:1.6
Mount		Φ19	Φ19	Φ14	Φ14
Horizontal Angle of View (°)	1/2.5"	92 - 36	92 - 36		
	1/2.7"	84.4 - 33	84.4 - 33		
	1/2.8"	82.5 - 32.4	82.5 - 32.4	94.2 - 32.1	94.2 - 32.1
	1/3"	77 - 30	77 - 30	85.2 - 29.6	85.2 - 29.6
Back Focal Length (mm)		6.99 - 13.25	6.99 - 13.25	6.52 - 13.40	6.52 - 13.40
Dimensions (Φ×L×W)mm		30 x 33.1 x 45.9	30 x 33.3 x 49.3	30 x 34.85 x 45.93	30 x 34.85 x 44.98
Iris		P-iris with ICR	DC A/I with ICR	P-iris with ICR	DC A/I with ICR
Weight (g)		56.1	57.5	55.6	57.4

Fixed-Focal Lenses (IR Mega) for 1/1.8", 1/2", 1/2.5"

EVETAR®

- IR-correction for Day & Night surveillance
- Super-wide HFOV up to 138°
- Mount option: CS / M12 x 0.5

Coming Soon

Model No.		M118B029520IR	M118B0418IR	M125B03618IR	M125B04218IR	M125B0616IRM12	M125B0818IRM12	M125B1218IRM12
Image Size (inch)		1/1.8"	1/1.8"	1/2.5"	1/2.5"	1/2.5"	1/2.5"	1/2.5"
Focal Length (mm)		2.95	4.0	3.6	4.2	6	8	12
Aperture Ratio		1:2.0	1:1.8	1:1.8	1:1.8	1:1.6	1:1.8	1:1.8
Mount		M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5
Horizontal Angle of View (°)	1/1.8"	138	101					
	1/2"	125	91.5					
	1/2.5"			93	84		44	27.8
	1/3"	93	69	75.5	68.2		36.4	23.2
Back Focal Length (mm)		7.85	8.0	7.73	7.3		8.4	6.8
Dimensions (Φ×L)mm		25 x 26	24 x 23.2	15 x 17.5	14 x 16.7		14 x 16.54	14 x 17.2
Iris		Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Weight (g)		15.2	21.3	6.5	5.5		6.1	6.1

Model No.		M118F029520IR	M118F0418IR	M12B1618IRM12	M12B2524IRM12	M12B3525IRM12	M12B5025IRM12	M125F03518IR
Image Size (inch)		1/1.8"	1/1.8"	1/2"	1/2"	1/2"	1/2"	1/2.5"
Focal Length (mm)		2.95	4.0	16	25	35	50	3.5
Aperture Ratio		1:2.0	1:1.8	1:1.8	1:2.4	1:2.5	1:2.5	1:1.8
Mount		CS	CS	M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5	CS
Horizontal Angle of View (°)	1/1.8"	138	101					
	1/2"	125	91.5	22.3	14.3	11	7.3	
	1/2.5"			20	13	9.4	6.6	96
	1/3"	93	69	16.8	10.8	7.8	5.5	80.4
Back Focal Length (mm)		7.85	8.0	7.21	10.26	14.49	18.63	6.24
Dimensions (Φ×L)mm		30 x 21.2	30 x 17.5	15 x 17.5	15 x 18.7	20 x 33.4	25 x 48.9	30 x 15.6
Iris		Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Weight (g)		39.8	40.2	6.5	7.1	15.5	34.5	38.7

Fixed-Focal Lenses (IR Mega) for 1/2.7", 1/3"

EVETAR®

- Compact design popular for Dome and Bullet
- IR-correction for Day & Night surveillance
- Super-wide HFOV up to 130°
- IR cut option
- Mount option: CS / M12 x 0.5

NEW NEW

Model No.		M127B02820IR	M13B02118IR	M13B02420IR	M13B02820IR	M13B03618IR
Image Size (inch)		1/2.7"	1/3"	1/3"	1/3"	1/3"
Focal Length (mm)		2.8	2.1	2.4	2.8	3.6
Aperture Ratio		1:2.0	1:1.8	1:2.0	1:2.0	1:1.8
Mount		M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5
Horizontal Angle of View	1/2.7"	110				
	1/3"	100	130	104	98	77
	1/3.2"					
	1/4"	73.8	95.2	81	73	56
Back Focal Length (mm)		6.36	6.25	4.56	5.29	6.59
Dimensions (Φ×L)mm		15.5 x 17	17 x 18.7	15 x 12.3	14 x 16.7	14 x 16.6
Iris		Fixed	Fixed	Fixed	Fixed	Fixed
Weight (g)		6.6	6.5	5.9	6.6	6.1

NEW

Model No.		M127F02820IR	M13F02118IR	M13F02820IR	M13F03618IR
Image Size (inch)		1/2.7"	1/3"	1/3"	1/3"
Focal Length (mm)		2.8	2.1	2.8	3.6
Aperture Ratio		1:2.0	1:1.8	1:2.0	1:1.8
Mount		CS	CS	CS	CS
Horizontal Angle of View	1/2.7"	110			
	1/3"	100	130	98	77
	1/3.2"				
	1/4"	73.8	95.2	73	56
Back Focal Length (mm)		6.36	6.25	5.29	6.59
Dimensions (Φ×L)mm		30 x 10.6	33 x 17.64	30 x 11.6	30 x 14.2
Iris		Fixed	Fixed	Fixed	Fixed
Weight (g)		7.1	30.1	6.6	6.1

Fixed-Focal Lenses (IR Mega) for 1/2.7", 1/3"

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Model No.		M13B04218IR	M13B0618IR	M13B0818IR	M13B1218IR	M13B1618IR
Image Size (inch)		1/3"	1/3"	1/3"	1/3"	1/3"
Focal Length (mm)		4.2	6	8	12	16
Aperture Ratio		1:1.8	1:1.8	1:1.8	1:1.8	1:1.8
Mount		M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5
Horizontal Angle of View	1/2.7"					
	1/3"	71	48	35.5	22.7	16.4
	1/3.2"					
	1/4"	50	35	26	17	12.5
Back Focal Length (mm)		7.21	8.75	5.4	6.54	6.59
Dimensions (Φ×L)mm		14 x 16.2	14 x 14.7	14 x 17.4	14 x 15.5	14 x 15.8
Iris		Fixed	Fixed	Fixed	Fixed	Fixed
Weight (g)		6.5	5.9	6.5	6.3	6.1

Model No.		M13F04218IR	M13F0618IR	M13F0818IR	M13F1218IR	M13F1618IR
Image Size (inch)		1/3"	1/3"	1/3"	1/3"	1/3"
Focal Length (mm)		4.2	6	8	12	16
Aperture Ratio		1:1.8	1:1.8	1:1.8	1:1.8	1:1.8
Mount		CS	CS	CS	CS	CS
Horizontal Angle of View	1/2.7"					
	1/3"	71	48	35.5	22.7	16.4
	1/3.2"					
	1/4"	50	35	26	17	12.5
Back Focal Length (mm)		7.21	8.75	5.4	6.54	6.59
Dimensions (Φ×L)mm		30 x 14.5	30 x 14.9	30 x 14.5	30 x 14	30 x 14.7
Iris		Fixed	Fixed	Fixed	Fixed	Fixed
Weight (g)		6.5	5.9	6.5	6.3	6.1

Non Distortion Lens (IR Mega)

EVETAR®

- Super-low distortion
- High resolution compatible with 1.3-3Mega-pixel cameras
- Broad band cofocal design suitable for both Visible and NIR applications
- Compact design ideal for integration
- Cost-effective for recognition applications

NEW

10 Mega

Model No.		N118B05518IR	N118B0818IR	N118F0818IR	N123B05425IR	N125B03518IR
Image Size (inch)		1/1.8"	1/1.8"	1/1.8"	1/2.3"	1/2.5"
Focal Length (mm)		5.5	8	8	5.4	3.5
Aperture Ratio		1:1.8	1:1.8	1:1.8	1:2.5	1:1.8
Mount		M12 x 0.5	M12 x 0.5	CS	M12 x 0.5	M12 x 0.5
Horizontal Angle of View (°)	1/1.8"	64.5	47.2	47.2		
	1/2.3"				60	
	1/2.5"	55.3	43	43	56	84
	1/3"	47	32.5	32.5	48	68
Back Focal Length (mm)		6.87	9.82	9.92	6.6	5.99
Dimensions (Φ×L)mm		24 x 23.3	24 x 22.8	30 × 18.9	14 × 18.74	24 x 19
Iris		Fixed	Fixed	Fixed	Fixed	Fixed
Weight (g)		15.7	37.1	39	6.5	13.5

NEW

Model No.		N125B04518IR	N125F06218IR	N13B03516IR	N13B04516IR	N13B0620IR
Image Size (inch)		1/2.5"	1/2.5"	1/3"	1/3"	1/3"
Focal Length (mm)		4.5	6.2	3.5	4.5	6
Aperture Ratio		1:1.8	1:1.8	1:1.6	1:1.6	1:2.0
Mount		M12 x 0.5	CS	M12 x 0.5	M12 x 0.5	M12 x 0.5
Horizontal Angle of View (°)	1/1.8"					
	1/2.3"					
	1/2.5"	66	47			
	1/3"	57	41	68	57	50
Back Focal Length (mm)		6.14	7.02	5.99	6.14	6.34
Dimensions (Φ×L)mm		24 x 22.8	30 x 19.6	22 x 21.5	22 x 22	15 × 17
Iris		Fixed	Fixed	Fixed	Fixed	Fixed
Weight (g)		16.1	14.4	14.9	12.7	6.1

Fisheye Lens (IR Mega)

EVETAR®

- Super-wide angle with FOV>185° for panoramic surveillance
- Sharp image quality for multi-mega pixels cameras
- Suitable for various image formats, i.e., 1/4'', 1/3.2'', 1/3", 1/2.5", 1/2", 1/1.8", 2/3" etc
- IR cut option

NEW

Model No.		F12B0155IR	F125B0137IR	F13B0125IR	F13B02IR	F132B0119IR	F14B0127IR
Image Size (inch)		1/2"	1/2.5"	1/3"	1/3"	1/3.2"	1/4"
Image Height (mm)		4.6	4.15	3.44		3.24	2.8
Focal Length (mm)		1.55	1.37	1.25	2	1.19	1.27
Max. Aperture Ratio		1:2.0	1:2.0	1:2.0	1:2.0	1:2.0	1:2.8
Mount		M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5	M12 x 0.5	M7 x 0.35
Horizontal Angle of View (°)	1/2"	185					
	1/2.5"		183				
	1/3"			185	147	185	
	1/4"	185	183	185	102.5	185	185
Back Focal Length (mm)		6.43	6.11	6.44	6.17	6.44	3.98
Dimensions (Φ×L)mm		28 x 26.6	28 x 28.6	25 x 28.6	32.5 x 25.1	25 x 26.2	12 x 13.32
Iris		Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Weight (g)		24.1	23.1	19	20.4	17.6	2.2

NEW

Model No.		F23B02IR	F12FM014IR	F118FM022914IR
Image Size (inch)		2/3"	1/2"	1/1.8"
Image Height (mm)		6.6	5.3	4.8
Focal Length (mm)		2.0	1.4	2.29
Aperture Ratio		1:2.0	1:1.4	1:1.4
Mount		M12 x 0.5	CS	CS
Horizontal Angle of View (°)	2/3"	195		
	1/1.8"			185
	1/2"	185	182	
	1/2.5"		182	145
Back Focal Length (mm)		6.16	6.81	7.21
Dimensions (Φ×L)mm		30 x 25.2	44.5 x 46.97	66 x 68.4
Iris		Fixed	Manual	Manual
Weight (g)		18.4	127.8	306

Fisheye Lenses (IR Mega)

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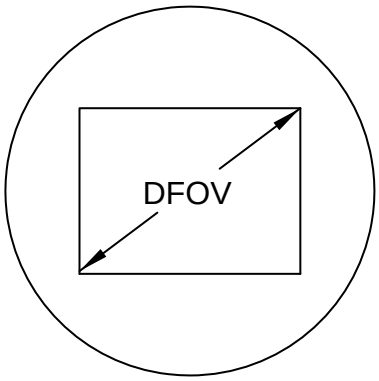
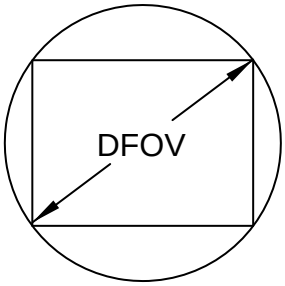
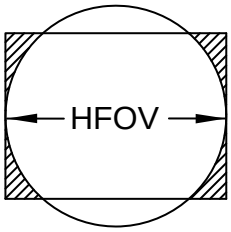


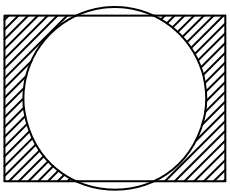
Full Frame Overfill



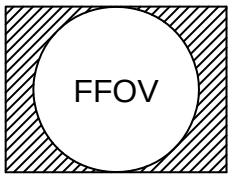
Full Frame
(FF)



Full Horizontal
(FH)



Partial Frame
(PF)



Circular Fisheye
(CF)

				Horizontal Field Of View (deg)			
Evetar PN	EFL(mm)	F/#	Lens FOV (deg)	1/2.5" format (5.76mm width)	1/3" format (4.8mm width)	1/3.2" format (4.54 mm width)	1/4" format (3.6mm width)
F14B0127IR	1.27	2.0	185	185	185	185	185
F132B0119IR	1.19	2.0	185	185	185	185	185
F13B0125IR	1.25	2.0	185	185	185	185	185
F13B0147IR	1.47	2.0	195	195	195	195	195
F13B02IR	2.00	2.0	195	165	137	129	102
F125B0137IR	1.37	2.0	183	183	183	183	154
F12B0155IR	1.55	2.0	185	185	185	180	128
F12FM014IR	1.40	1.4	182	182	182	180	136
F118FM0229IR	2.29	1.4	185	146	120	114	90

ITS Lens (Mega)

EVETAR®

- Ultra-high resolution of 5 Mega-pixel
- Low distortion image quality with good corner brightness
- Large image format for ITS and standard surveillance applications
- Precise iris scales for aperture adjustment
- Manual iris and DC auto iris types available
- Popular for ANPR (LPR) applications

Model No.		M118FM0616C	M118FM0818C	M23FM1216C	M23FM1616C	M23FM2518C	M23FM3520C	M23FM5025C	M11FM7528C
Image Size (inch)		1/1.8"	1/1.8"	2/3"	2/3"	2/3"	2/3"	2/3"	1"
Focal Length (mm)		6.0	8.0	12	16	25	35	50	75
Aperture Ratio		1.6 - 16C	1.6 - 16C	1.6 - 16C	1.6 - 16C	1.8 - 16C	2.0 - 16C	2.5 - 16C	2.8 - 16C
Mount		C	C	C	C	C	C	C	C
Horizontal Angle of View (°)	1"								9.2
	2/3"	-	-	38	29.5	19	14	9.7	6.4
	1/1.8"	60	46	32.6	24	15.2	11.4	8.2	5.2
	1/2"	54.6	41.6	29	21.7	13.8	10.3	7.4	4.1
Back Focal Length (mm)		7.89	9.2	7.99	10.16	9.73	10.98	18.25	14.67
Dimensions (Φ×L)mm		32 x 45.3	32 x 41.1	32 x 40.2	33.5 x 42	33.5 x 28.7	33.5 x 31.6	33 x 43.9	40 x 63.4
Iris		Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual
Weight (g)		89.6	84	85.6	93.3	62.7	66.4	86.1	162.4

Model No.		M118FD0616	M118FD0818	M23FD1216	M23FD1616	M23FD2518	M23FD3520	M23FD5025	M11FD7528C
Image Size (inch)		1/1.8"	1/1.8"	2/3"	2/3"	2/3"	2/3"	2/3"	1"
Focal Length (mm)		6.0	8.0	12	16	25	35	50	75
Aperture Ratio		1.6 - 16C	1.6 - 16C	1.6 - 16C	1.6 - 16C	1.8 - 16C	2.0 - 16C	2.5 - 16C	2.8 - 16C
Mount		CS	CS	CS	CS	CS	CS	CS	C
Horizontal Angle of View (°)	1"								9.2
	2/3"	-	-	38	29.5	19	14	9.7	6.4
	1/1.8"	60	46	32.6	24	15.2	11.4	7.9	5.2
	1/2"	53.5	41.5	29	21.7	13.8	10.3	7	4.9
Back Focal Length (mm)		7.89	9.2	7.99	10.16	9.73	10.98	18.25	14.67
Dimensions (Φ×L×W)mm		32 x 51.3 x 41.4	32 x 45.3 x 41.4	32 x 44.3 x 41.4	32 x 46.8 x 41.4	32 x 36 x 41.4	32 x 43.5 x 41.4	32 x 49.4 x 41.4	40 x 63.4 x 45.4
Iris		Auto (DC)	Auto (DC)	Auto (DC)	Auto (DC)	Auto (DC)	Auto (DC)	Auto (DC)	Auto (DC)
Weight (g)		108.2	95.7	98.6	103.7	74.5	77.8	94.7	154

FA / Machine Vision Lens (Mega)

EVETAR®

- Image format of 1/1.8",2/3" and 1" ; focal length from 6mm to 75mm
- High resolution of 3-5 mega pixels
- Super-low distortion
- Precise iris and focus scales for adjustment
- Locking sets for focus and iris to prevent movement caused by vibration or shock

Model No.		MV118FM06C	MV118FM08C	MV23FM12C	MV23FM16C	MV23FM25C	MV23FM35C	MV23FM50C	MV11FM75C
Image Size (inch)		1/1.8"	1/1.8"	2/3"	2/3"	2/3"	2/3"	2/3"	1"
Focal Length (mm)		6.0	8.0	12	16	25	35	50	75
Aperture Ratio		1.6 - 16C	1.4 - 16C	1.6 - 16C	1.6 - 16C	1.8 - 16C	2.0 - 16C	2.5 - 16C	2.8 - 16C
Mount		C	C	C	C	C	C	C	C
Horizontal Angle of View (°)	1"								9.2
	2/3"	-	-	38	29.5	19	14	9.7	6.4
	1/1.8"	60	46	32.6	24	15.2	11.4	7.9	5.2
	1/2"	53.5	41.5	29	21.7	13.8	10.3	7	4.9
Back Focal Length (mm)		7.8	9	8.4	10.26	10.2	11.3	18.25	14.19
Dimensions (Φ×L)mm		37 x 54.6	29.5 x 38.2	29.5 x 38.2	33 x 48.04	33 x 35.5	33 x 36.5	33 x 43.39	40 × 60.64
Iris		Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual
Iris Operation		-	-	-	-	-	-	-	-
Weight (g)		84.5	68.4	71.8	97	65	66.5	89.7	180.7

1/3" Vari-Focal Lens (VGA)

- Standard resolution for VGA, D1 and WVGA
- Popular focal length range ideal for distribution and tenders.
- All glass elements and metal housing for harsh-temperature environment

Model No.		V13VD358	V13VD2812	V13VD550IR	V13VD5100
Image Size (inch)		1/3"	1/3"	1/3"	1/3"
Focal Length (mm)		3.5-8.0	2.8-12	5.0-50	5 - 100
Max. Aperture Ratio		1:1.4	1:1.4	1:1.6	1:1.8
Mount		CS	CS	CS	CS
Horizontal Angle of View (°)	1/3"	78 - 34	85 - 27	49 - 5.6	45 - 2.9
	1/4"	57 - 25.5	64 - 20.20	36.5-4.3	8.5 - 11.64
Back Focal Length (mm)		8.28-13.38	7.56 - 15.97	6.85 - 9.28	8.5 - 116.4
Dimensions (Φ×L×W)mm		33 x 44 x 45.6	45 x 64.7 x 51.6	45 x 63.1 x 50.6	50 x 87.8 x 50.6
Iris		Auto	Auto	Auto	Auto
Iris Operation		DC	DC	DC	DC
Weight (g)		79.6	134.2	196	203.2

Model Name Coding Rule

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	①	②	③	④	⑤	⑥	⑦	⑧	⑨
V13VM358	V	13	V	M	358				
V13VD2812	V	13	V	D	2812				
V13BF409	V	13	B	F	409				
V13B03620	V	13	B		036	20			
M12VM4510IR	M	12	V	M	4510		IR		
N125B03516IR	N	125	B		035	16	IR		
MZ125BP3410ICRD1	MZ	125	B	P	3410		ICR	D14	
MV118FM08C	MV	118	F	M	08			C	
P13B03718R1	P	13	B		037	18			R1

① Feature

Sign	Meaning
V	VGA Lens
M	Megapixel lens
N	Non Distortion Lens
F	Fisheye Lens
MV	Machine Vision Lens
MZ	Motorized Zoom and Focus Lens
P	Pin-hole Lens
A	Accessory,glass or part
R	Other Lenss

② Image Size

Sign	Meaning
14	1/4"
13	1/3"
125	1/2.5"
12	1/2"
118	1/1.8"
23	2/3"
11	1"

③ Lens Type

Sign	Meaning
V	Vari Focal
B	Board Mount
F	Fixed Focal
Z	Zoom Lens
AF	Auto Focusing

④ Iris Type

Sign	Meaning
M	Manual Iris
D	DC Drive Auto Iris
A	Video Drive Auto Iris
F	Fixed Iris Varifocal Board Mount
P	Precision Iris

⑤ Focal Length

Fixed Focal Length

Sign	Meaning
035	3.5mm
04	4.0mm
35	35mm

Vari Focal Length

Sign	Meaning
358	3.5-8.0mm
308	3.0-8.0mm
5100	5.0-100mm

⑥ F No.

Sign	Meaning
095	F0.95
16	F1.6
20	F2.0

⑦ IR Perforance

Sign	Meaning
IR	IR correction Lens
W	IR Cut Filter/Coating
ICR	IR Cut Filter Removable

⑧ Mount

Sign	Meaning
CS	CS Mount
C	C Mount
M12	M12*0.5
M14	M14*0.5
D14	Φ14
D19	Φ19

⑨ Additional

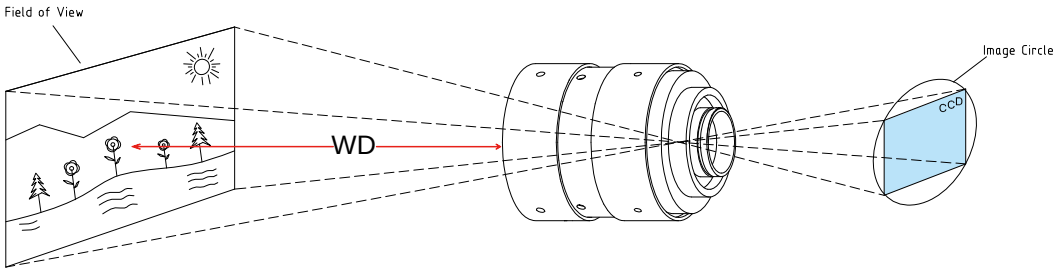
Sign	Meaning
R1/2	Version One/Two
AS	Aspherical
L	LED

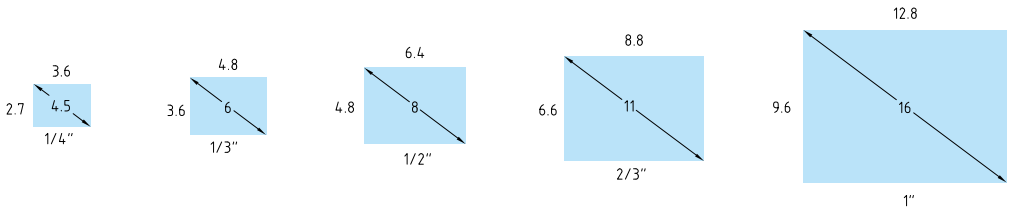
*Some special lenses could not follow this rule.

Terminology

Image Sizes

There are several types of imaging sensors with different image sizes for CCTV cameras, the aspect ratio of CCTV camera is normally 4:3 (H:V). The size of camera's imaging sensor affects the angle of view, with the smaller sensors creating narrower angles of view when used with the same lens. The format of the lens, however is not related to the angle of view, it merely needs to project an image which will cover the sensor, i.e., the same format of the camera or large. This also means that 1/3" cameras can use the entire range of lenses from 1/3" to 1", for example, a 1/3" 12mm lens gives the same angle of view as a 2/3" 12mm lens does. The latter combination also provides increased resolution and picture quality as only the center part of the lens is being used, where the optics can be ground more accurately.

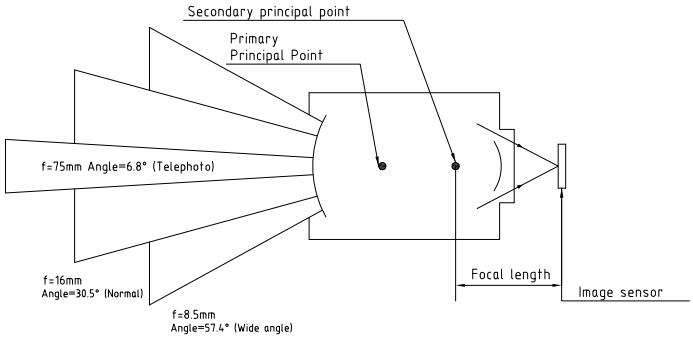




Focal Length

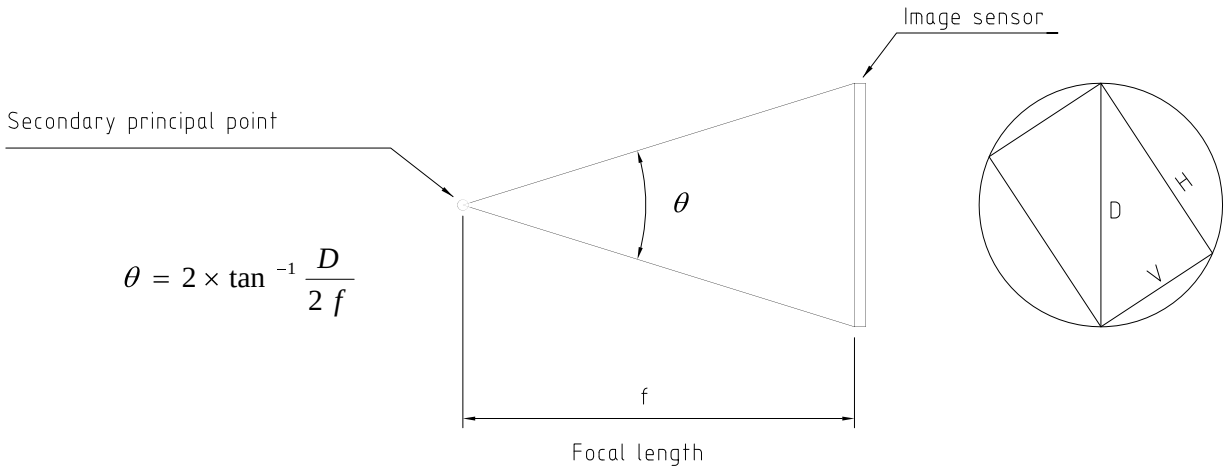
Rays from infinite distance objects are condensed internally in the lens at a common point on the optical axis. The point at which the image sensor of the CCTV camera is positioned, is called a focal point. By virtue of design, lenses have 2 principal points, a primary principal point & a secondary principal point, the distance between the secondary principal point and the focal point (image sensor) determines the focal length of the lens.

The focal length of a lens is measured in mm and directly relates to the angle of view that will be achieved. Short focal length provides wide angle of view and long focal length becomes telephoto, with narrow angle of view.



Angle of View

The angle formed by the 2 lines from the secondary principal point to the edges or corners of image sensor is called the angle of view. Theoretically, the focal length of a lens is fixed regardless of the image size of the CCTV camera. Conversely, the angle of view varies according to the change of image size. For a certain image size, the angle of view will increase when the focal length becomes shorter. The focal lengths in the catalog are nominal and the angles of view calculated by the formula referring to the focal length are approximate.



$$\theta = 2 \times \tan^{-1} \frac{D}{2f}$$

Aperture (F No.)

Aperture is an index for the amount of light that passes through a lens. The value of the aperture is represented by the F No., the smaller the F number, the greater the amount of light, and the brighter the image generated by the lens. The F No. is inversely proportional to the entrance pupil diameter of the lens and directly proportional to the focal length. Its formula is as follows:

F No. = f / D (f: focal length, D = Entrance pupil diameter)

Auto Iris and Manual Iris

There are three types of operation for lens iris, that is, (1) DC drive auto iris; (2) Video drive auto iris and, (3) Manual iris. For DC drive type, the iris is controlled by the circuit inside the camera; for Video drive type, the iris is equipped with an amplifier inside and is operated by the video signal and DC power supply from the camera; for Manual type, the iris is manually adjusted over the adjusting ring on the lens.

M.O.D.

The M.O.D. (minimum object distance) is the closest distance from the vertex of the front lens to the nearest object at which an image can be focused.

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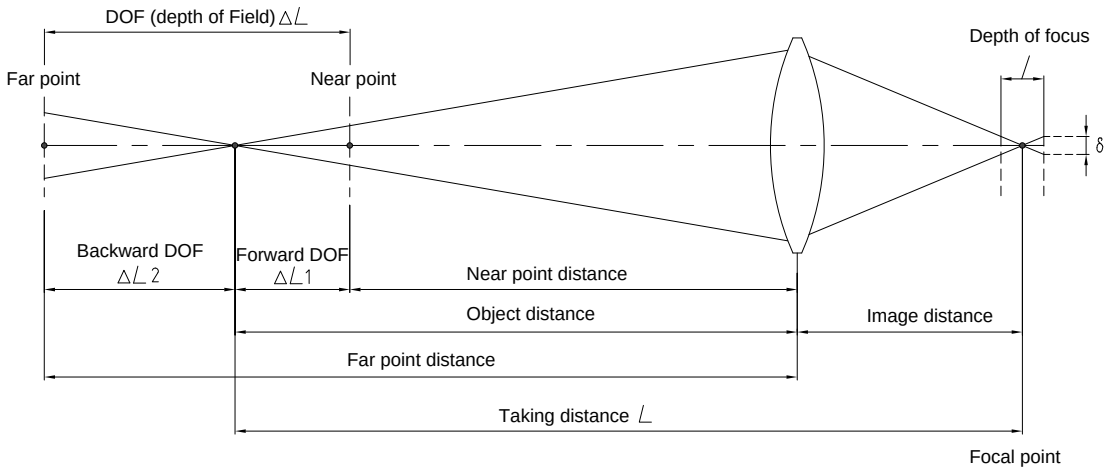
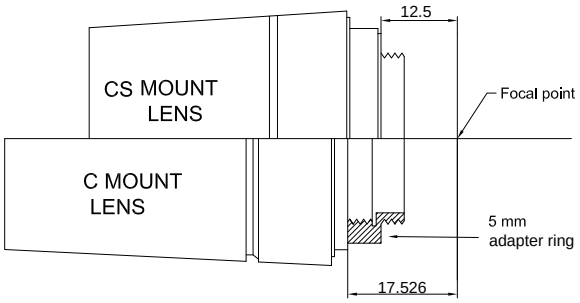
Depth of Field

The depth of field (DOF) refers to the area within the field of view which is in focus. A large depth of field means that a large percentage of the field of view is in focus. A small depth of field means only a small section of the field of view is in focus. The depth of field is of following properties:
1) The larger the F No. is, the wider the depth of field becomes.
2) The shorter the focal length is, the wider the depth of field becomes.
3) The longer the distance to the object is, the wider the depth of field becomes.



CS and C Mount

The CS-mount lens has the flange back distance of 12.5mm. The C-mount lens has the flange distance of 17.5mm. The CS mount lens is only applicable to the CS mount camera, but the C mount lens is fit for both C mount and CS mount cameras as long as a 5mm adapter ring is used to match the CS mount camera.



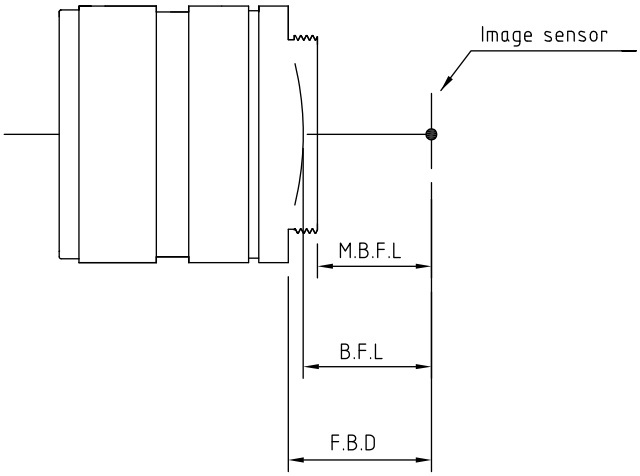
	C Mount Lens	CS Mount Lens
C Mount Camera	○	×
CS Mount Camera	Needs 5mm adapter ring	○

Flange Back Distance, Back Focal Length, Mechanical Back Focal Length

Flange back distance is the distance between the lens flange and the sensor focal plane.

Back focal length is the distance between the vertex of the rear lens element and the sensor focal plane.

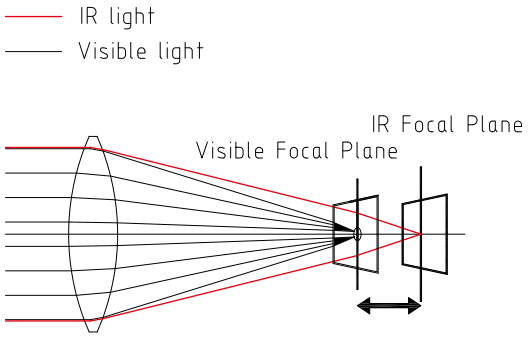
Mechanical Back Focal Length is the distance between the surface of the lens frame and the sensor focal plane.



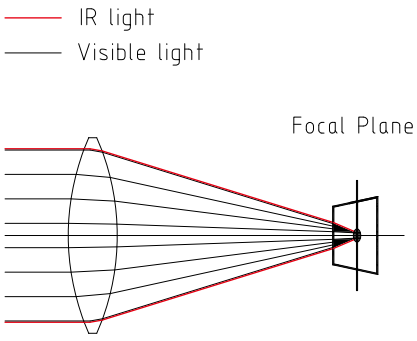
Non IR Lens vs IR Lens

Day & Night cameras are normally used in near-infrared (NIR) or infrared (IR) at night. If we use a Non IR lens with a day & night camera, the image will be out of focus (shifting) at night. Our special optical designs with broad band co-focusing technology based on special glass material minimize light dispersion. As a result, refocusing is not required when the camera is used under NIR or IR. The special design makes the lens to deliver perfect focusing either under visible light or under IR illumination circumstances.

■ Non IR Lens



■ IR Lens



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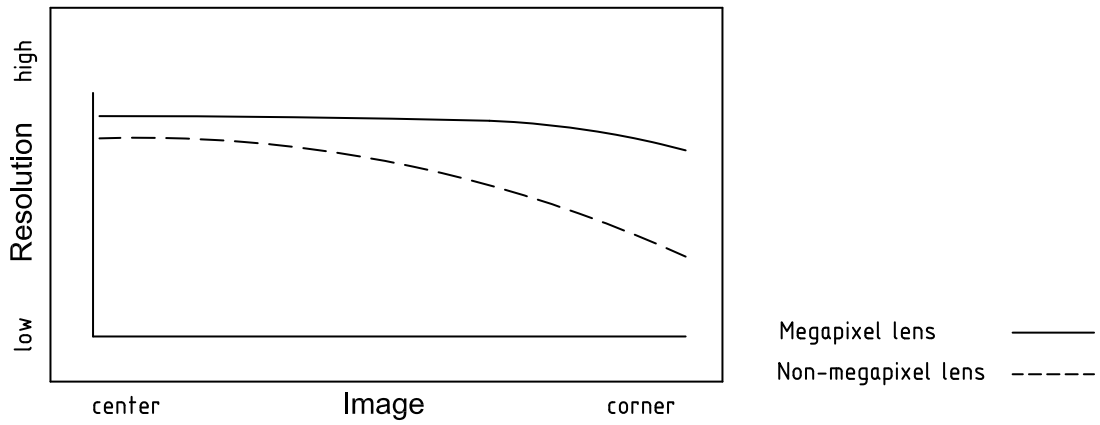
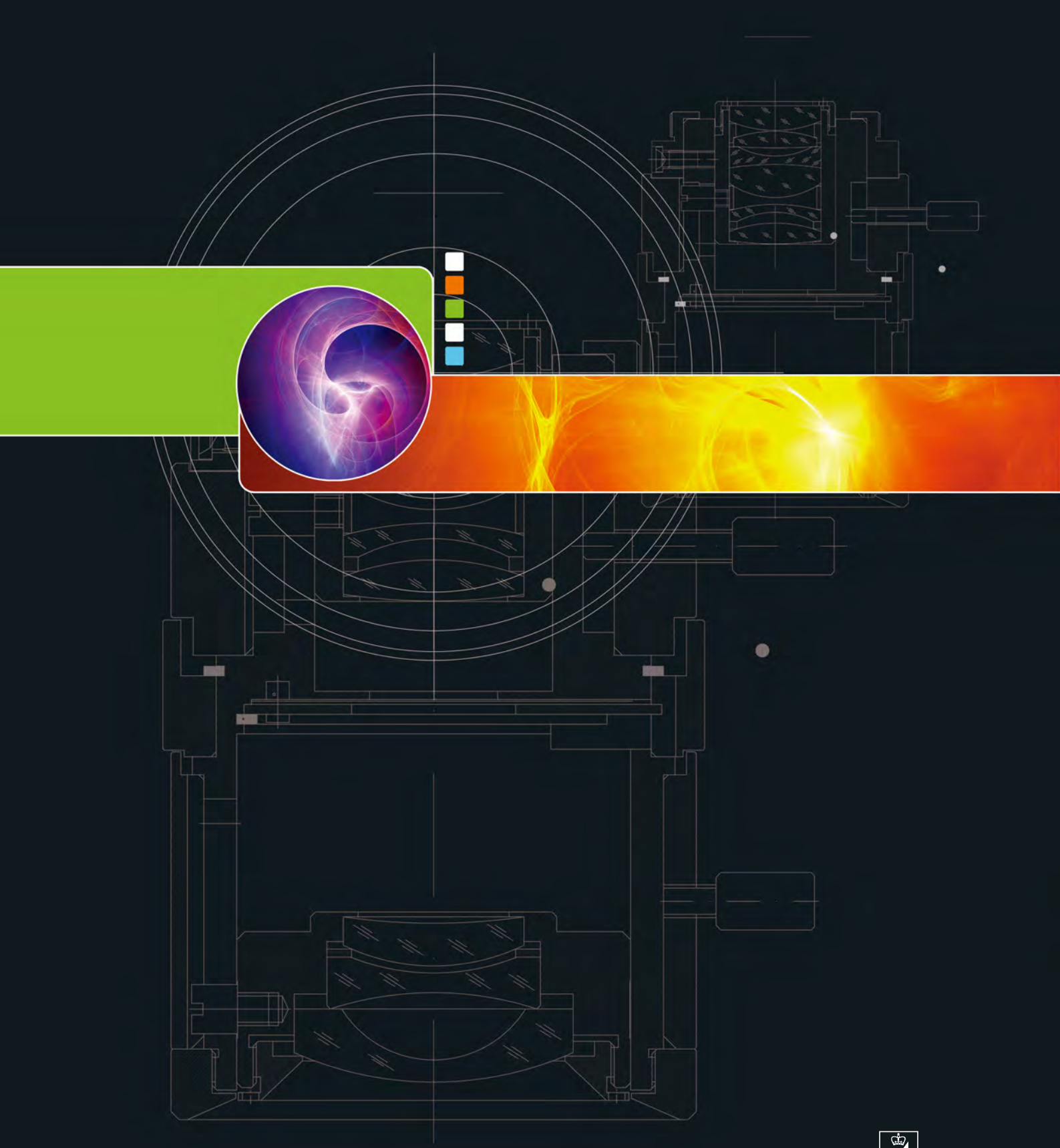
Megapixel

CCD and CMOS image sensors use a series of pixels arranged on a 2 dimensional grid. These pixels convert an optical image to an electronic signal. The number of pixels in an image usually defines the resolution, more pixels means higher resolution. A megapixel is defined as one million pixels, while camera with a megapixel sensor is called a megapixel camera.

Megapixel lens for megapixel camera

To achieve the full resolution of a megapixel camera, it is essential to use a high quality megapixel lens. Overall image quality is greatly affected by the quality of the optical image shot onto the image sensor. Megapixel lenses provide high contrast, brightness and sharpness across the entire image plane. Non-megapixel lenses will not fully display the resolution of megapixel sensor, especially in the corner area of the image.





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